

FACT SHEET FOR NPDES PERMIT WA-000307-7
FACILITY NAME: Grays Harbor Paper Company, L. P.

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

<u>GENERAL INFORMATION</u>	
Applicant	Grays Harbor Paper, L.P.
Facility Name and Address	Grays Harbor Paper, L. P. 801 23rd Street, Hoquiam, WA 98550
Type of Facility: Paper mill using nonintegrated kraft paper SIC Code: 2621	
Discharge Location	Waterbody name: Outfall 001 - Grays Harbor Latitude: 46° 58' 03" N Longitude: 123° 51' 45" W. Outfall 002 - Hoquiam River Latitude: 46° 58' 15" N Longitude: 123° 52' 30" W
Water Body ID #	WA-22-0030 and WA-22-2010

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

The mill was constructed in 1929 and started operating as Grays Harbor Pulp and Paper Company. In the middle 1930's, a process to make rayon from wood fiber was developed, and three Olympic peninsula mills (Port Angeles, Shelton, and Grays Harbor) joined in 1937 to form Rayonier, Inc. In 1962, Rayonier entered into a joint partnership with Hammermill Paper to create Grays Harbor Paper which operated the paper machines, while Rayonier continued operating the pulp mill portion of the facility. International Telephone and Telegraph (ITT) acquired Rayonier in 1968 and International Paper (IP) purchased Hammermill in 1986. The facility was closed in November 1992, and demolition was completed on the pulp mill, chemical product lines, and vanillin extraction facilities. In December of 1993, a group of local investors restarted the paper mill portion of the plant as Grays Harbor Paper, L.P.

The primary wastewater treatment system was started in 1972 and secondary treatment in 1977. These treatment systems were constructed to treat wastewater from the chemical pulping, vanillin extraction facility, and the paper mill. When the paper mill portion of the plant restarted in 1993, the new company, Grays Harbor Paper, L.P., leased the land from ITT Rayonier, Inc., and assumed full responsibility for operating the wastewater treatment system and the National Pollutant Elimination System (NPDES) permit requirements. Grays Harbor Paper, L.P. also acquired responsibility for Order DE92-WQI067 with the exception of the sediment study. ITT Rayonier remained responsible for the sediment study required by order DE92-WQI067 and the remediation of the site through a voluntary cleanup.

The facility is considered a major discharger by Ecology and EPA.

INDUSTRIAL PROCESS

The company monthly average production in 2001 was 444 tons of paper/day from nonintegrated purchased bleach kraft pulp produced from softwood and hardwood. The mill is operated 24 hours per day by 253 employee producing fine papers from purchased bleached Kraft wood pulp. The paper mill operated 340 days during 2001. Grays Harbor Paper, L. P. does not bleach the pulp. In 2001, the company was shut down three weeks due to market conditions. The effluent guidelines defined production as off-the-machine. Off-the-machine includes culls and trim. With these definitions, the off-the-machine production for 2001 is 463 tons/day. The production of 463 tons/day will be used to calculate the permit limits for BOD and TSS for outfall 001.

DISCHARGE OUTFALL

OUTFALL 001

The Permittee's treated process wastewater is discharged through outfall 001 with primary and secondary treatment. The treated wastewater includes 4.3 MGD from paper making, 2.2 MGD

from the boilers, and 0 - 3 MGD collected stormwater. The treated wastewater is discharged via outfall 001. The treated process wastewater discharge line was constructed with wood staves and runs to the northern edge of the dredged north shipping channel of Grays Harbor. The line extends 100 feet from shore in a SSW direction. The wastewater is discharged to Grays Harbor through a single 26 inch diameter horizontal discharge port at a water depth of 25 feet below MLLW.

OUTFALL 002

Outfall 002 discharges to the Hoquiam River. The discharged water consists of filter back wash (about 0.33 MGD) and overflow from the fresh water treatment system. These waters are discharged via outfall 002 with the filter plant overflow. The only pollutants of concern are TSS and pH. The outfall line extends 75 feet from shore. The point of discharge is 20 feet below the water surface.

The total freshwater brought to the site is approximately 10 MGD.

PERMIT STATUS

The previous permit for this facility was issued on September 27, 1997. The previous permit placed effluent limitations on biochemical oxygen demand (BOD₅), total suspended solids (TSS), fecal coliform, and pH for outfall 001 the process wastewater discharge and TSS and pH for outfall 002 for the filter plant backwash and freshwater overflow waters.

An application for permit renewal was submitted to the Department on March 19, 2002. A revised application was submitted April 22, 2002. The application was accepted by the Department.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility received a class 1 inspection on May 15, 2002. A class 2 compliance inspection with sampling was performed on March 26 and 27, 2002.

During the history of the previous permit, the Permittee has remained in compliance based on Discharge Monitoring Reports (DMRs) submitted to the Department and inspections conducted by the Department except for one TSS limit exceedance for Outfall 002 during a period when the fresh water influent from the River was very turbid.

The proposed wastewater discharge is characterized for the following parameters:

Table 1: Wastewater Characterization

Parameter	Concentration	
	Outfall 001 (mg/L)	Outfall 002 (mg/L)
BOD	18	
COD	30	59
TSS	56	78
TOC	6.3	

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Parameter	Concentration	
Flow	7.24 (MGD)	0.33 MGD
Temperature - Winter	17.2 °C	
Temperature - Summer	22.4 °C	
Bromide	2	
Color	15 ACU	
Nitrogen (Total organic)	1.2	
Phosphorus	0.4	
Sulfates	18.4	
Surfactants	0.08	
Aluminum	0.28	0.357
Barium	0.083	0.009
Boron	0.063	0.023
Cobalt	0.0005	
Iron	0.324	8.06
Magnesium	6.75	1.92
Molybdenum	0.002	
Manganese	0.206	0.105
Antimony	0.0004	
Arsenic	0.006	
Cadmium	0.0001	
Chromium	0.0017	0.003
Titanium	0.015	0.043
Copper	0.0037	0.0098
Lead	0.0017	0.0013
Nickel	0.0009	
Silver	0.00002	
Thalium	0.00003	
Zinc	0.0177	0.022

SEPA COMPLIANCE

There are no SEPA requirements related to the permit.

SANITARY WASTEWATER

All sanitary wastewater from the facility is discharged into the City of Hoquiam collection system and receives secondary treatment before being discharged under the city's NPDES permit.

STORMWATER

All stormwater discharges are routed to outfall 001 through the wastewater treatment system except one minor nonprocess stormwater source near the secondary treatment system. Stormwater from this area is collected into a ditch that is discharged with the City of Hoquiam stormwater discharge and is included in the city's stormwater permit.

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Ecology does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

DESIGN CRITERIA

In accordance with WAC 173-220-150 (1) (g), flows or waste loadings shall not exceed approved design criteria. The wastewater treatment system was designed for an integrated sulfite pulp mill. Therefore, the system is larger than required to treat the present load.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Technology-based limitations are set by regulations or developed on a case by case basis. The proposed permit's BOD and TSS limits were calculated for paper production made with non-integrated bleached Kraft pulp.

The most current guidelines for the categories of pulp made at the mill site were published in the federal register on November 18, 1982 and March 30, 1983. The federal effluent guidelines for best conventional pollutants control technology (BCT) for the categories of pulp made at the site were defined on December 17, 1986 to be the same as BPT previously defined in March 1983. BCT and BPT were defined more than ten years ago. With BCT and BPT being defined longer than ten years, it is Ecology policy to determine if they are still valid and if they can still be considered equivalent to all known and reasonable treatment (AKART) for these categories of paper making.

On April 15, 1998, the Environmental Protection Agency promulgated effluent guidelines for the bleached Kraft Papergrade and Soda subcategories and Papergrade Sulfite subcategory. The 1998 allowances for BOD and TSS in pound per 1000 pound of pulp produced for the above categories were set at the same value as the allowances in the effluent guidelines published in 1982. The 1998 effluent guidelines took both emissions to air and water into consideration and included chlorinated organic compounds. Secondary treatment was the required type of treatment.

The 1982 effluent guidelines are determined to be AKART for the following reasons.

- There were no changes in the new guidelines for the type of paper making promulgated on April 15, 1998
- Secondary treatment has been and is expected to remain the level of treatment that the effluent guidelines are based on.
- Four other permits have been issued and another one has been drafted with the 1982 effluent guidelines being determined to be equivalent to AKART.

The 1982 guidelines are as follows for nonintegrated paper production and will be used in the proposed permit to calculate the BOD and TSS limit.

40 CFR Part 430.182 Subpart R (Wood fiber furnish subdivision)		
BPT effluent limitations		
Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Pounds per 1,000 pound of product	
BOD ₅	8.2	4.25
TSS	11.0	5.9
pH	5.0 to 9.0 without exceptions	

With the production of 463 tons/day and the above allowances, the BOD and TSS limits in the proposed permit will be:

	Daily Maximum	Monthly Average
BOD(Lbs./day)	7600	3900
TSS(Lbs./day)	10200	5500

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTIDegradation

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges via outfall 001 to Grays Harbor and via outfall 002 to the Hoquiam River which are designated as a Class B receiving water in the vicinity of the outfalls. Other nearby point sources includes the cities of Hoquiam and Aberdeen and the Weyerhaeuser's pulp mill. Characteristic uses include the following: fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; secondary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for most uses.

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SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria applicable to this discharge are summarized below:

Fecal Coliform	100 organisms/100 mL geometric mean
Dissolved Oxygen	5 mg/L minimum
Temperature	19 degrees Celsius maximum or incremental increases above background
pH	7.0 to 8.5 standard units
Turbidity	less than 10 NTU above background
Toxics	No toxics in toxic amounts

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

Pollutant concentrations in the proposed discharge exceed water quality criteria with technology-based controls which the Department has determined to be AKART, a mixing zone is authorized in accordance with the geometric configuration, flow restriction, and other restrictions for mixing zones in Chapter 173-201A WAC. The diameters of the acute and chronic mixing zones are 22.5 feet and 220 feet, respectively. The dilution factors of effluent to receiving water that occur within these zones have been determined at the critical condition by the use of Plumes program with Cormix1. The acute and chronic dilution ratios have been determined to be 10:1 and 96:1, respectively.

ACUTE AND CHRONIC DILUTION FACTORS FOR OUTFALL 001

	Acute	Chronic
Aquatic Life	10	96
Human Health, Carcinogen		96
Human Health, Non-carcinogen		96

The impacts of dissolved oxygen deficiency, temperature, pH, fecal coliform, metals, and other toxics were determined as shown below, using the dilution factors at critical conditions described above.

Fecal Coliform: Commercially harvested oysters are harvested down stream from the permittee's outfall 001. Fecal coliform monitoring and limits are placed in the permit to protect water quality and human health. The permit will require that any spills of untreated wastewater with a potential to have a fecal coliform count of larger than 20,000 colonies/100 ml. and any exceedance of 20,000 colonies/100ml be reported to the Shellfish section of the Department of Health.

The draft TMDL being done by Ecology indicates that the daily maximum fecal coliform limit of 19,200 count/100 ml in the current permit is protective of the oyster beds. Therefore, the current permit limits for the daily maximum will be placed into the proposed permit. However, with the dilution factor of 96:1 and the water quality criteria of 100 count/100 ml, the geometric mean will be 9600 count/100 ml instead of 5,000 count/100 ml.

The permittee has met their permit limit for the terms of the permit. In fact the highest value of fecal coliform measured during 1999 and 2000 was a non-detect at 1,000 #/100 mL. Since the permittee has met their permit limit for the past 5 years, the monitoring frequency for fecal coliform has been changed to monthly.

BOD₅ for outfall 001 --Under critical conditions there is no predicted violation of the Water Quality Standards for Surface Waters for dissolved oxygen. Therefore, the technology-based effluent limitation for BOD₅ was placed in the permit.

Temperature for outfall 001 --The impact of the discharge on the temperature of the receiving water was modeled by simple mixing analysis at the critical condition. The receiving water temperature at the critical condition is 19.0 °C and the effluent temperature is 24.2°C. The predicted resultant temperature at the boundary of the chronic mixing zone is 19.05 °C and the incremental rise is 0.05 °C. Under critical conditions there is no predicted violation of the Water Quality Standards for Surface Waters for temperature. Therefore, temperature limitation is not placed in the proposed permit.

pH for outfall 001 --Because of the high buffering capacity of marine water, compliance with the technology-based limits of 5 to 9 will assure compliance with the Water Quality Standards for Surface Waters.

Turbidity for outfall 001 --The impact of turbidity was evaluated based on the range of turbidity in the effluent and turbidity of the receiving water. Due to the large degree of dilution, it was determined that the turbidity criteria would not be violated outside the designated mixing zone.

Toxic Pollutants for outfall 001 --Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits.

Copper and arsenic were determined to be present in the discharge above the water quality and/or health quality criteria. A reasonable potential analysis was conducted on these parameters to determine whether or not effluent limitations would be required in this permit.

The determination of the reasonable potential for copper to exceed the water quality criteria was evaluated with procedures given in EPA, 1991 at the critical condition. The parameters used in the critical condition modeling are as follows: acute dilution factor of 10 and chronic dilution factor of 96. In the previous permit, the permittee was required to perform a receiving water study to ascertain the copper content of the water. The data obtained from this study and the copper detected in the effluent was used in a reasonable potential analysis. Water quality criteria for metals in Chapter 173-201A WAC are based on the dissolved fraction of the metal. The

metal translators for copper were obtained from the water quality criteria page of the TSDCALC9. TSDCALC9 is an Excel spread sheet for making the reasonable potential. There was no reasonable potential for copper to exceed the state's water quality criteria. A reasonable potential for arsenic to exceed the health based criteria will be discuss in the health quality section of the factsheet.

For outfall 002, there are no potential for impacts to either water quality or health quality. Therefore, no limitations have been placed in the proposed permit.

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

The current NPDES permit placed chronic WET limits in the permit term. The chronic species were Fathead minnow and *Ceriodaphnia dubia*. The current permit required the permittee to test for toxicity relating to the reproduction of *dubia* and survival and weight gain of fathead minnow on a quarterly basis. The criteria for determining if a chronic WET limit is required is that a statistically significant difference in response between the control and the acute critical effluent concentration (ACEC). The ACEC for this discharge is 9%. The Fathead minnow and *Ceriodaphnia dubia* results passed the decision criteria for the entire five year permit term. Therefore, no chronic WET limit will be placed in the proposed permit. However, the permit will be required to perform chronic testing in the last summer and the last winter of the permit term. The results of these tests will be submitted to Ecology with the permit application.

The current permit required the permittee to perform acute toxicity test in the last summer and the last winter of the permit. The current permit required the permittee to use three species for acute testing. These species were *Ceriodaphnia dubia*, Fathead minnow, and rainbow trout on a rotating basis. The range of survival of the species in the acute toxicity were as follows: 100% and 100% *Ceriodaphnia dubia* survived in 100% effluent in the two tests; 92.5% and 100% of the Fathead minnow survived in 100 % effluent in the two test; and, 95 % and 100% of the Rainbow trout survived in 100% effluent in the two tests. The criteria for a permit limit for the acute WET test is less than 80% survival on any fishes in 100% effluent. Therefore, there will be no limit for acute WET limit in the proposed permit. However, the permittee will be required to test the effluent for acute WET toxicity in the last summer and the last winter of the permit term. The results of these tests will be submitted to Ecology with the permit application.

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

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The Department has determined that the applicant's discharge has arsenic in their wastewater, a chemical regulated for human health. A determination of the potential discharge to cause an exceedance of the water quality standards was conducted as required by 40 CFR 122.44(d). The reasonable potential determination was evaluated with procedures given in the Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001) and the Department's Permit Writer's Manual (Ecology Publication 92-109, July, 1994). The determination indicated that the discharge has no reasonable potential to cause a violation of health quality standards for arsenic. Therefore, effluent limits are not warranted for arsenic.

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards states that the Department may require Permittee to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400). The Department has determined through a review of the discharger characteristics and effluent characteristics that this discharge has no reasonable potential to violate the Sediment Management Standards.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100). The company has no discharge to ground water related to the treatment system and therefore no limitations are required based on potential effects to ground water.

COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED SEPTEMBER 23, 1997

	Existing Limits		Proposed Limits	
Outfalls	001	002	001	002
BOD(Lbs./day)				
Daily Maximum	7,380	-	7,600	-
Monthly Average	3,825	-	3,900	-
TSS(Lbs./day)				
Daily Maximum	9,900	3,000	10,200	3,000
Monthly Average	5,310	1,000	5,500	1,000
pH	5 – 9 SU with ± 1 SU exceptions			
Fecal Coliform				
Monthly Geometric	5,000 #/100 mL	-	9,600 #/100 mL*	-
Daily Maximum	19,200 #/100 mL*	-	19,200 #/100 mL*	-

* With no more than 10 percent exceeding 19,200 #/100 mL

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved. The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. The laboratory at this facility is accredited for TSS, BOD, fecal coliform, pH, and dissolved oxygen.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, Ecology may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and have the updated plan on site available for the inspectors to review during on site inspections.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste. The proposed permit requires, under the authority of RCW 90.48.080, that the Permittee update the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state. The plan must be submitted to the Ecology within 180 cd after the effective date of the permit and to the local permitting agency.

TREATMENT SYSTEM OPERATING PLAN

In accordance with state and federal regulations, the Permittee is required to take all reasonable steps to properly operate and maintain the treatment system (40 CFR 122.41(e)) and WAC 173-220-150 (1)(g). It has been determined that the implementation of the procedures in the Treatment System Operating Plan is a reasonable measure to ensure compliance with the terms and limitations in the permit. The permittee shall revised their current Treatment System Operating Plan and submit the revised plan to Ecology within 180 days of the issuance date of the permit.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, and outfall studies. The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed permit be issued for five (5) years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(E2). (Cited in EPA 1985 op.cit.)

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

The Department will publish a Public Notice of Draft (PNOD) on March 10, 2003 in Daily World, Aberdeen, Washington to inform the public that the draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Don Nelson
Department of Ecology
Industrial Section
P. O. Box 47706
Olympia, WA 98504-7706

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360)407-6940, or by writing to the address listed above.

The permit and fact sheet were written by Don Nelson.

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for “all known, available, and reasonable methods of treatment”.

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over a short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--TECHNICAL CALCULATIONS

Several of the Excel® spreadsheet tools used to evaluate a discharger's ability to meet Washington State water quality standards can be found on the Department's homepage at <http://www.ecy.wa.gov/programs/eap/pwspread/pwspread.html>

APPENDIX D--RESPONSE TO COMMENTS

Comments from Grays Harbor Paper, L.P.

Comment 1

On Page 6, Special Condition S2, there is a table labeled Monitoring Schedule. It specifies sampling points, frequencies, and type for various parameters. The information that is presented applies to our Outfall 001. Some of that information presented applies to Outfall 001. Some of that information does not apply to Outfall 002 and would be incorrect for that outfall. There is nothing that communicates that this is for Outfall 001 only.

The previous permit had separate line items for each outfall. Another way to address it might be to present a second table with the 002 parameters. I don't have a strong preference for how it is done, as long as we make clear which condition applies to which outfall.

Response 1

Two tables been developed to specify what monitoring is required for outfalls 001 and 002.

Comments from the Environmental Protection Agency

NPDES Permit Renewal Application

EPA Comment 1

On Page 1 of 4, EPA FORM 3510-2C, the average flow indicated for the Boilers is 2.2 MGD. Yet in the GHP, L.P. PROCESS WATER FLOW diagram included with the map of the facility, the water from the boiler is indicated to be 0.25 MGD and that from the boiler scrubber to be 0.5 MGD. It is not clear which is correct. (Note. The Fact Sheet also uses the 2.2 MGD number on page 5.)

Response to EPA comment 1

The differences in the values are related to the 2.2 MGD includes all flows from the power house where the diagram are only specific process flows. Theses values are only estimated values.

EPA Comment 2

On Page 2 of 4, EPA FORM 3510-2C, the 002 outfall is listed in the section marked "C. Except for", which is for intermittent or seasonal discharges. The frequency, however, is noted as 7 days per week, 12 months per year with a duration of 365 days. How is this considered intermittent or seasonal?

Response to EPA comment 2

Although the filter backwash system has a daily discharge, it does not discharge water continuously over the entire 24 hour day.

EPA Comment 3

On Page 2 of 4, EPA FORM 3510-2C, the “III. PRODUCTION”, (“1. AVERAGE DAILY PRODUCTION”) is listed as 607 air dry short tons. This is not the average but the maximum in 2000 and 2001 and occurred March 2000 according to a data sheet received by Ecology on March 12, 2002, which is part of the material presented with the application. None of this data pertains to the average daily production.

Response to EPA comment 3

Noted, it does appear that the 607 short tons is a maximum production.

EPA Comment 4

On Page 3 of 4, EPA FORM 3510-2C, the “V. INTAKE AND EFFLUENT CHARACTERISTICS” section indicates there are no pollutants listed in Tables 2c-3. But on the next page, Page 4 of 4, EPA FORM 3510-2C, the “VII.CONTRACT ANALYSIS INFORMATION” identifies two the labs that analyzed these pollutants. If no pollutants are listed, then how can they have labs doing the analysis?

Response to EPA comment 4

The chemicals listed in the referenced table refer to toxic chemicals found in the instruction of the NPDES permit application. The contact laboratories refer to test performed by the permittee in reference to chemicals listed on page V-1 through V-9 of the permit application. Therefore, the way that the permittee answered the questions was correct.

Fact Sheet

EPA Comment 5

On page 5, the monthly average production in 2001 is stated as 444 tons of paper/day, however, according to a data sheet received by Ecology on March 12, 2002, which is part of the material provided to EPA by Ecology, the average of the twelve values for that year is 442 tons per day. The origin of the 463 tons per day value used by Ecology is not clear. This number appears in the above reference data as the monthly average for January 2002, but this may just be a coincidence. On page 5, the calculations using the production rate of 463 tons per day shown on page 9 and 10 of the Fact Sheet appear to be reasonable.

Response to EPA comment 5

Thanks, there was a 2 tons/day error in the stated averaged production. The average off the machine production of 463 tons/day was from the year 2000. The 2 tons/day error does not play any role in the limit calculations.

EPA Comment 6

On page 6, the parameters are given in concentration, yet the effluent limitations in the draft permit are provided in mass. The fact sheet does not explain how the limits were derived for the draft permit (i.e., concentration in mg/L times flow in MGD time a conversion factor of 8.34 pound-liter per mg-gallon).

Response to EPA comment 6

The limits were derived as mass limits using the effluent guidelines and the recent off-of-the machine paper production for the mill as explained on page 8-10 of the factsheet. The effluent guidelines are based on a technology basis and are derived as mass limits.

The chemicals listed in the table are those that were detected in the effluent. A reasonable potential was performed and none were above the water quality criteria at the edge of the acute or chronic dilution zone. If any of the chemical detected in the effluent had a potential for exceeding the respective water quality criteria, the limitation would have been in concentration units.

EPA Comment 7

On page 5 of the fact sheet, the flow in Outfall 001 is the sum of 4.3, 2.2 and 0-3.0 MGD, or 6.5 to 9.5 MGD. Table 1, on page 6, shows the characteristic of the discharge from Outfall 001 for BOD to be 18 mg/L. According to Page 5 of the draft permit, the mass loading discharge limit will be 7,600 lbs./day. Using the lower flow of 6.5 MGD and a conversion factor of 8.34 pounds per gallon, the equivalent concentration is 140 mg/l, which is greater than the maximum required BPT effluent limitation of 8.2 mg/L. It would seem that the discharge limit should protect the concentration quality required by the effluent guidelines. Similarly, for TSS, the characteristic is 56 mg/L, but the 10,200 lbs./day limit equates to 188 mg/L, which is also in excess of this BPT effluent limitations.

On page 6, the “Wastewater Characterization” is unclear. Is this a daily maximum or average? Or put another way, the 3,900 lbs/day limit, for example, at 9.5 MGD would be equivalent to 49 mg/l which exceeds 18 mg/L.

Response to EPA comment 7

The permit was written to protect the water quality in the receiving waters. The water quality criteria for dissolved oxygen are not violated in the receiving waters. The limits were derived as mass limits using the effluent guidelines and the recent off-of-the machine paper production for

the mill as explained on page 8-10 of the factsheet. The effluent guidelines are based on technology allowances and are derived as mass limits.

The wastewater characterization table contained the chemicals found in the effluent tests that are listed in permit application.

EPA Comment 8

On page 7, the permit writer did not include the Outfall 002 datum for Cobalt. According to Page V-2, EPA FORM 3510-2C, the value should be 0.0008.

Response to EPA comment 8

Thanks, but cobalt is neither listed as a water quality or health quality chemical of concern.

EPA Comment 9

On page 12, it is indicated that the Surface Water Quality Criteria for Fecal Coliform is 100 counts per 100ml. However, ten percent of the time the Fecal Coliform can be up to 200 counts. The fact sheet discusses the draft TMDL waste load allocation of 19,200 counts on page 13 and the 96:1 dilution for chronic dilution ratios. Applying the dilution ratio to the WLA gives a value of $(19,200 \div 96 =) 200$ counts. This does not match the water quality criteria of 100 counts/100 ml. Please explain how this is protective of water quality criteria.

Response to EPA comment 9

The water quality rule WAC 173-201A limits fecal coliform to a geometric mean to 100 count/100ml with no more than 10 percent of the values used to calculate the geometric mean exceeding 200 count/100 ml. The compliance point is at the chronic dilution zone. Therefore, the monthly geometric mean would be 100×96 and the not to exceed 10 percent of the values would be 200×96 with a dilution factor of 96:1. Or the monthly geometric mean would be 9600 count/100 ml and the not to exceed more than 10 percent value would be 19,200 count/100 ml.

EPA Comment 10

On page 15, the Proposed Limits are higher than the existing limits for BOD, TSS and Fecal Coliform. Please explain how this is not backsliding under the Clean Water Act section 402(o)(1) which states that effluent limits may not be less stringent than comparable effluent limits in the previous permit.

Response to EPA comment 10

The production number changed and since the TSS and BOD limits are calculated for each permit using the current production level back sliding is not triggered. The fecal coliform limit was calculated in error during the last permitting process. The error was corrected; therefore, it is not back sliding.

Draft Permit

EPA Comment 11

The draft permit does not contain concentration limits only mass loading limits. Please explain how the draft permit limits will meet the BPT effluent guideline limitations (see comment 3 under fact sheet.

Response to EPA comment 11

See response to comment 6 and 7 above.